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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,117	12/21/2001	Petrus Carolus Maria Frissen	PHNL000765	3128

7590 12/31/2002

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[REDACTED] EXAMINER

PHAM, LEDA T

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 12/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Response to Amendment

1. This office action is in response to Amendment filed on 10/15/02.
2. Claims 1- 17 are presented for examination.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 – 4, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Markle U.S Patent No. 6,072,251 in view of Takei U.S Patent No. 5,831,352.

Markle discloses in figures 5,8 and 12 a displacement device with a first part (figure 8) and a second part (figure 12) which are displaceable relative to one another in at least an X-direction and a Y-direction perpendicular thereto, wherein the first part comprises a carrier (798) which extends substantially parallel to the X-direction and the Y-direction and on which a system of magnets is fastened in a pattern of rows (801, 803) extending parallel to the X-direction and columns (800, 802) extending parallel to the Y-direction, wherein an equal distance is present each time between the rows and between the columns, wherein in each row (801, 803) and in each column (800, 802) magnets of a first kind (N) with a magnetization direction perpendicular to the carrier and directed to the second part and magnets of a second kind (Z) with a magnetization direction perpendicular to the carrier and directed away from the second part are positioned in alternation, and wherein a magnet of a third kind (H) with a

magnetization direction directed from a magnet of the second kind (Z) to the magnet of the first kind (N) is arranged between the magnets of the first (N) and the second kind (Z), while the second part is provided with a system of electric coils (figure 5) with at least one electric coil of a first kind (500), with current conductors situated in a magnetic field of the system of magnets and enclosing an angle of substantially 45° with the X-direction, and with at least one electric coil of a second kind (502), also with current conductors situated in the magnetic field of the system of magnets and enclosing an angle of substantially 45° with the X-direction but directed perpendicular to the current conductors of the first electric coil (500). Markle, however, did not disclose the displacement device is provided with a number of sensors sensitive to magnetic fields, which sensors supply a signal, which is dependent on the local mutual positions of the permanent magnets of the first part relative to the electric coils of the second part in the region where these two parts overlap.

Takei teaches a displacement device disclosing in figure 7 and figure 8, which is the number of sensors (43) sensitive to magnetic fields, which sensors supply a signal, which is dependent on the local mutual positions of the permanent magnets (69) to the electric coils (movable part 2, coil 22) in the region where these two parts overlap.

Thus, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the Markle's displacement device by adding the sensors into the electric coils to sensitive the magnetic fields as taught by Takei for the purpose of detect the field magnet.

Referring to claim 2, Takei discloses in figure 4 that the sensors (43) sensitive to magnetic fields are present in that part of said first part and said second part in which the coil systems are situated.

Referring to claim 3, Takei discloses in figure 8 that the sensors sensitive to magnetic fields comprise Hall sensors (column 6 line 55 –56).

Referring to claim 4, Takei discloses in figure 8 that the sensors sensitive to magnetic fields comprise one of several linear arrays of individual Hall sensors which are situated at regular distances to one another.

Referring to claim 10, Markle discloses in figure 2 that the electric coils are of an approximately rectangular shape and as a result have mutually opposed parallel straight sides, the electric coils of each coil system are arranged such that their corresponding sides are positioned parallel to one another, and Takei discloses in figure 8 each linear array is arranged in a position parallel to a side of the immediately adjacent electric coil and at equal distances to the ends of said side.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Markle and Takei as applied in the rejection against the base claim above, and further in view of Ruppert U.S. Patent No. 4,763,051.

The combination of Markle and Takei refs substantially discloses the claimed invention, except for the added limitations of the individual Hall sensors of each array are connected to an input of a summation amplifier via respective individual differential amplifiers.

Ruppert, however, teaches a device having the Hall sensors (Figure 3, H1, H2, H3, H4) that each array of Hall sensors is connected to an input of a summation amplifier via respective individual differential amplifiers.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the displacement device by connecting each array of Hall sensors to an amplifier as taught by Ruppert. Doing so would provide each different signal in each amplifier.

Allowable Subject Matter

6. Claims 5 – 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 12 – 17 are allowed.

8. The following is a statement of reasons for the indication of allowable subject matter: the record of prior art does not show the ratio of the length of the shorter side of the magnet of the third kind (H) to the length of the longer side thereof lies between 0.25 and 0.59.

Response to Arguments

9. Applicant's arguments filed 10/15/02 have been fully considered but they are not persuasive.

10. The arguments are not persuasive because Takei teaches the Hall sensor (43) sensitive to magnetic fields, which sensors supply a signal which is dependent on the local mutual positions of the permanent magnets (69) to the electric coils (movable part 2, coil 22) in the region where these two parts overlap.

11. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Markle and Takei related to linear motor having direct current in the position of the magnet and coil.

12. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., to provide **accurate** local position information **immediately upon starting**) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

13. In response to applicant's argument that a signal be dependent on the local mutual positions of the permanent magnets of the first part relative to the electric coils of the second part in the region where these two parts overlap, all of the claim limitations are not taught or suggested by the cited references. The Examiner disagrees with this statement, because Takei's hall sensors array (43) detect the position of the two movable tables (one includes coil and other includes magnet) where they overlap (line 54 column3 – line 9 column 4). Anyone with ordinary skill in the art would be able to understand the hall sensors array providing a signal dependent on the local mutual positions.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leda T. Pham whose telephone number is (703) 305-4864. The examiner can normally be reached on M-F (7:30-5:00) first Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-9176 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3431.

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Leda T. Pham
Examiner
Art Unit 2834

LTP
December 26, 2002


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